

Notice of Allowability

Application No.

09/822,090

Examiner

Mary J. Steelman

Applicant(s)

LUEH, GUEI-YUAN

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/29/2004, 1/18/2005, 4/13/2005.
2. ☒ The allowed claim(s) is/are 1-39.
3. ☒ The drawings filed on 30 March 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date Fax 4/13/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TUAN DAM
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. This Office Action is in response to Appeal Brief received 18 January 2005 and subsequent faxed correspondence with Applicant's representative 13 April 2005. The prior final office action, dated 5 August 2004 is hereby withdrawn. Per Applicant's request, 29 September 2004, claims 24, 25, 35, and 36 have been amended. Per Applicant's request via faxed correspondence 13 April 2005, the Specification is hereby amended. By Examiner's Amendment that follows, claims 1, 4, 16 and 31 are amended. Claims 1-39 are pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview and faxed correspondence with Thinh Nguyen, Reg. No. 42,034 on 13 April 2005, to better clarify and/or define claimed invention and, accordingly, to put the claims in condition for allowance.

The Specification has been amended as follows:

Claims 1, 4, 16, and 31 are to be amended as follows:

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IN THE SPECIFICATION:

Change 'filed' to 'field' in [0039] (three places, lines 3, 5, and 6) and in [0071] (line 1).

IN THE CLAIMS:

1. (currently amended) A method comprising:

re-compiling a function when a field watch for a field is activated, the function including a byte code sequence having a field byte code that accesses or modifies the field, the recompiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to the field watch of the field, the instrumentation code including code for executing an event hook function; and

inserting the instrumentation code to the native code.

4. (currently amended) The method of claim 3 wherein executing the field watch sequence comprises:

saving live global state, the live global state corresponding to an active register;

executing ~~an~~ the event hook function for an event corresponding to the field watch; and

restoring the live global state.

16. (currently amended) A computer program product comprising:

a machine useable medium having computer program code embedded therein, the computer program product having:

computer readable program code to re-compile a function when a field watch for a field is activated, the function including a byte code sequence having a field byte code that accesses or modifies the field, the recompiled function providing a native code and occupying a code space,

computer readable program code to generate an instrumentation code corresponding to the field watch of the field, the instrumentation code including code for executing an event hook function; and

computer readable program code to insert the instrumentation code to the native code.

31. (currently amended) A system comprising:

a processor;

a memory coupled to the processor to store instruction code, the instruction code, when executed by the processor, causing the processor to:

re-compile a function when a field watch for a field is activated, the function including a byte code sequence having a field byte code that accesses or modifies the field, the re-compiled function providing a native code and occupying a code space,

generate an instrumentation code corresponding to the field watch of the field, the instrumentation code including code for executing an event hook function; and

insert the instrumentation code to the native code.

--THE END--

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3. The following is an examiner's statement of reasons for allowance:

As Applicant has pointed out on page 10, 1st paragraph, of Remarks received 29 September 2004, Wolczko, Angel and Copperman, and other cited prior arts, taken alone or in combination, fail to disclose "(1) re-compiling when a field watch for a field is activated, (2) generating an instrumentation code corresponding to the field watch; and (3) inserting the instrumentation code to the native code," as recited in each of independent claims 1, 16, and 31. Thus all remaining dependent claims, claims 2-15, 17-30, and 32-29 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached at (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman



05/23/2005



TUAN DAM
SUPERVISORY PATENT EXAMINER

09 / 823105 For static or semi-static compilation of instrumentation code:

Always generate instrumentation code (#510), and execute field watch sequence depending on field watch (#520)...

Or

Always generate instrumentation code (#510), which includes generating code to execute field watch sequence (#520) ? , provide a guard to enable execution if the field watch is activated, or to disable execution if the field watch is not activated?

See [0047], "For the static model, the execution of the field watch sequence is performed whether or not the field watch is activated."

Do you mean the code to execute the field watch sequence is always generated? Not always executed?

Insert instrumentation code and guard code?

Claim 1:

An optimizing debug method with data access support comprising:

compiling a function including a byte code sequence having a field byte code that accesses or modifies a field,

the compiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to a field watch of the accessed or modified field

whereby arguments corresponding to the accessed or modified field are passed,

resulting in execution of an event hook function;

providing a guard to the instrumentation code, to enable execution if the field watch is activated,

or to disable execution of the instrumentation code if the field watch is not activated;

inserting the instrumentation code to the native code.

Dynamic recompilation: 09 / 822090

Generate instrumentation code, which includes generating code for executing a field watch sequence?

Not actually executing the field watch sequence?

Claim 1:

An optimizing debug method with data access support comprising:

re-compiling a function, using a fast code generator, when a field watch for a field is activated,

the function including a byte code sequence having a field byte code that accesses or modifies the field,

the recompiled function providing a native code and occupying a code space;

generating an instrumentation code corresponding to the field watch of the field;

said instrumentation code providing for execution of a field watch sequence,

whereby arguments corresponding to the accessed or modified field are passed;

resulting in execution of an event hook function.;

inserting the instrumentation code to the-native code.

Regarding 09 822090 Dynamic Recompilation:

Same limitations added to claim 1 should be added to all independent claims (Claim 1, 16, & 31)

Regarding 09823105

Same limitations added to claim 1 should be added to all independent claims (Claim 1, 16, & 31)

Claim language is unclear:

compiling a function...

generating an instrumentation code...

guarding execution of the instrumentation code if the field watch is not activated; and

inserting the instrumentation code to the native code.

Can this be changed to show that you are generating instrumentation code and generating (or providing or creating) a guard?

After the instrumentation code and the guard are generated, they are inserted into the native code?